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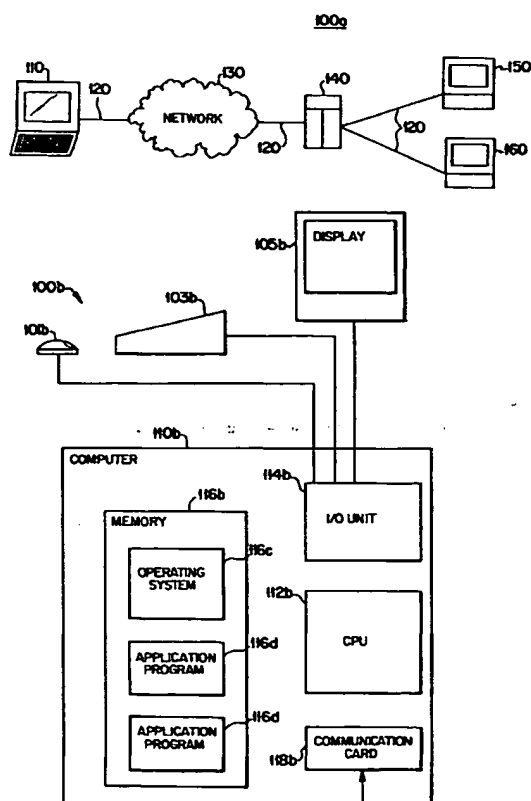
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(54) Title: **MESSAGE SCREENING SYSTEM**



(57) Abstract: A message screening system includes routing to a supervisory recipient (150) an electronic message directed to an intended recipient (160). The supervisory recipient (150) then is allowed to screen the electronic message by approving or rejecting the electronic message. The electronic message then is forwarded to the intended recipient (160) if the electronic message is approved by the supervisory recipient (160).



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

MESSAGE SCREENING SYSTEM

TECHNICAL FIELD

This invention relates to screening electronic messages.

BACKGROUND

5 In some instances, parents and employers may want to supervise their children's and employees' Internet access to prevent improper use, such as receipt of inappropriate content or communications. This supervision may involve "eyes-on" supervision by parents or employers to prevent communication by or with undesirable elements. For instance, a parent or an employer may choose to physically prevent
10 Internet access by the child or the employee until after the parent or the employer has reviewed received messages or to maintain "eyes-on" supervision while the child or the employee is online.

SUMMARY

15 In one general aspect, electronic messages may be routed by routing an electronic message directed to an intended recipient to a supervisory recipient and enabling the electronic message to be screened by the supervisory recipient. Implementations may include one or more of the following features. For example, routing the electronic message may include notifying the intended recipient that the
20 electronic message has been routed to the supervisory recipient. Routed electronic messages may include email, instant or chat room messages.

In some implementations, screening the electronic message may include allowing the supervisory recipient to approve or reject the electronic message, and forwarding the approved electronic message to the intended recipient. Screening the
25 electronic message also may include comparing an electronic address of a sender of the electronic message to a sender list, and approving or rejecting the electronic message based on a result of the comparison. The sender list may include a list of approved senders to compare the electronic address of the sender to the list of approved senders. Alternatively, or additionally, the sender list may include a list of

blocked senders to compare the electronic address of the sender to the list of blocked senders.

In some implementations, a supervisory recipient may be designated for an intended recipient. For example, the intended recipient may be a minor child and the supervisory recipient may be a guardian for the minor child. The intended recipient and the supervisory recipient may have related accounts within an electronic mail service. Additionally, the intended recipient and the supervisory recipient may have unique screen names comprising a single Internet service provider account. Alternatively, the intended recipient and the supervisory recipient may have unrelated accounts.

Implementations may include a method or process, an apparatus or system, or computer software on a computer medium. The details of one or more of the implementations are set forth in the accompanying drawings and the description below. Other features and advantages will be apparent from the description and drawings, and from the claims.

DESCRIPTION OF DRAWINGS

Figs. 1a and 1b are schematic diagrams of a message screening system.

Fig. 2 is a flow chart of a method of message screening.

Like reference symbols in the various drawings indicate like elements.

DETAILED DESCRIPTION

Referring to Fig. 1a, a message screening system 100a includes sender 110, communication links 120, delivery network 130, server 140, intended recipient 150, and supervisory recipient 160.

Sender 110 may be a computer programmed or configured to send an electronic message, such as hardware setup 100b described with reference to Fig. 1b. Hardware setup 100b may include various input/output (I/O) devices (e.g., mouse 101b, keyboard 103b, and display 105b) and a general purpose computer 110b having central processor unit (CPU) 112b, an I/O unit 114b, and memory 116b that stores data and various programs, such as an operating system 116c and one or more

application programs 116d. Computer system 110b also typically includes some sort of communications card or device 118b (e.g., a modem or a network adapter) for exchanging data with a network.

Alternatively, sender 110 may be implemented by another type of machine or device capable of sending an electronic message. Examples of electronic messages include e-mail, chat room, private chat room, instant messaging, bulletin board postings, and other systems for transmitting text or graphics images to recipients. In other implementations, sender 110 may send a non-electronic message such as a letter, an audio or video message, or a light modulated message.

Sender 110 may be connected to delivery network 130 by communication link 120. Communication link 120 may include one or more communication pathways that enable communications through one or more delivery networks, such as wired, wireless, cable, or satellite communication pathways. Examples of delivery networks 130 may include the Internet, the World Wide Web, WANs, LANs, analog or digital wired and wireless telephone networks (e.g., PSTN, ISDN, and xDSL), radio, television, cable, satellite, and/or any other delivery mechanism for carrying data. The Internet is a global network connecting millions of computers using a decentralized design.

Delivery network 130 may be connected by communication link 120 to message screening (MS) server 140, which is capable of handling message screening functions. MS server 140 may include a computer. Alternatively, MS server 140 may include a multi-purpose device, or other devices capable of managing message screening functions. Message screening functions may include redirecting messages from an intended recipient to a supervisory recipient, concurrent with or instead of directing those messages to the intended recipient. The messages to be directed by delivery network 130 to the supervisory recipient may be filtered or otherwise identified based on predetermined criteria or in other ways.

MS server 140 may be connected by communication link 120 to intended and supervisory recipients 150, 160. Intended and supervisory recipients 150, 160 generally are capable of communicating electronic messages and information with the MS server 140 and each other. For example, intended and supervisory recipients 150,

160 may include personal computer systems or other electronic devices such as a pager, a personal digital assistant, or a wireless telephone for communicating electronic messages. Moreover, intended and supervisory recipients 150, 160 may include software stored on a computer system with different screen names and
5 passwords enabling access to different accounts. In one implementation, intended recipient 150 includes software enabling access by a minor child, and supervisory recipient 160 includes software enabling access by the child's parent or guardian. In another implementation, intended recipient 150 includes software enabling access by an employee and supervisory recipient 160 includes software enabling access and/or
10 supervision by an employer.

Referring to Fig. 2, a process 200 for message screening includes receiving an electronic message directed to an intended recipient and directing that electronic message to a supervisory recipient (step 210), enabling screening of the electronic message by the supervisory recipient (step 220), and forwarding an approved
15 electronic message to the intended recipient (step 230). The method 200 for message screening also may include establishing a supervisory recipient for the intended recipient (step 205) and/or notifying the intended recipient (step 250) that one or more messages have been screened.

Establishing a supervisory recipient (step 205) may include, for example,
20 storing the related electronic address of the supervisory recipient 160 for the intended recipient 150 in the memory or storage of MS server 140.

Receiving an electronic message (step 210) generally is performed by examining the header of the electronic message for an electronic address corresponding to intended recipient 150, determining whether the electronic address
25 of intended recipient 150 corresponds to an intended recipient that is subject to supervisory screening, and routing the electronic message to supervisory recipient 160 if the address corresponds to an intended recipient subject to supervisory screening.

More specifically, using the electronic address of intended recipient 150 specified in the electronic message or otherwise obtained, MS server 140 determines
30 the electronic address of supervisory recipient 160 by, for example, referring to a database or lookup table. MS server 140 then may route the electronic message

automatically to an appropriate supervisory recipient 160 corresponding to intended recipient 150.

The electronic message may be routed to supervisory recipient 160 in addition to intended recipient 150, or it may be routed to supervisory recipient 160 in lieu of intended recipient 150. In one implementation, the message screening system may be configured to enable review by supervisory recipient 160 without preventing or delaying receipt by intended recipient 150. This can be performed by, for example, sending the electronic message concurrently to both intended recipient 150 and supervisory recipient 160. Alternatively, the supervisory recipient 160 may be given a certain time period to screen and approve an electronic message, after which a default condition may be established to automatically forward the electronic message to the intended recipient 150 or to permanently delete the electronic message. In any case, receipt of the message by supervisory recipient 160 may be performed with or without notice to intended recipient 150. Furthermore, an electronic message may be directed to one or more supervisory recipients 160.

Enabling screening of the electronic message by the supervisory recipient (step 220) may include reviewing the electronic message. Supervisory recipient 160 may be provided with a viewing screen having one or more control panels that allow supervisory recipient to approve or reject the electronic message for receipt by intended recipient 150.

The message screening system may be configured to automatically screen an electronic message. For example, lists of approved or blocked senders 110 may be stored at supervisory recipient 160, or otherwise, to enable automatic screening of predesignated message types or sender identifications. In one implementation, during the screening process, the sender 110 may be added to the lists of approved or blocked senders by the supervisory recipient 160. In another implementation, the MS server 140 may compare the electronic address of sender 110 to the list of approved or blocked senders 110 and, based on the comparison, either forward the message, reject the message, or allow supervisory recipient 160 to screen this message of senders 110 personally, or otherwise. Approval may include a manual procedure performed by supervisory recipient 160 such as entering a command or pressing a key. Approval

also may be a default condition that is presumed to exist after a certain time period of inaction by supervisory recipient 160 after receiving the electronic message. In general, MS server 140 generally forwards the electronic message to intended recipient 150.

5 Forwarding an approved electronic message to the intended recipient (step 230) generally includes automatically routing the electronic message to the intended recipient if the message is deemed acceptable for forwarding (in step 220). For example, sender 110 may be included on a list of approved senders. Conversely, if the message is not deemed acceptable for forwarding, the message may be refused
10 (step 240). For example, the message may be refused by deletion of the message. In another implementation, the sender may receive or access a message indicating that the electronic message sent to intended recipient 150 was refused.

Refusal may occur after sender 110 is added to a list of senders whose messages are automatically refused. In yet another implementation, if a threshold
15 number of electronic messages from a sender 110 are refused, the sender may be added to a list of senders to be refused or blocked and all further electronic messages from that sender 110 may be automatically refused or blocked, as appropriate.

Referring again to Fig. 2, message screening 200 also may include notifying the intended recipient that the electronic message has been routed to the supervisory
20 recipient (step 250). The notification may include, for example, an electronic message or a pop-up screen sent by MS server 140 that alerts intended recipient 150 that the electronic message has been routed to supervisory recipient 160.

In the examples described above, supervisory recipient 160 and intended recipient 150 may have related accounts, they may have unique screen names as part
25 of a shared Internet service provider (ISP) account, or they may have unrelated accounts.

A number of implementations of the message screening system have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the message screening system.
30 Accordingly, other implementations are within the scope of the following claims.

WHAT IS CLAIMED IS:

1. A method for routing electronic messages, the method comprising:
routing an electronic message directed to an intended recipient to a
5 supervisory recipient; and
enabling the electronic message to be screened by the supervisory
recipient.
2. The method of claim 1 wherein routing the electronic message includes
10 notifying the intended recipient that the electronic message has been routed to the
supervisory recipient.
3. The method of claim 1 wherein routing the electronic message does
not include notifying the intended recipient that the electronic message has been
15 routed to the supervisory recipient.
4. The method of claim 1 wherein enabling the electronic message to be
screened further comprises:
allowing the supervisory recipient to approve or reject the electronic message,
20 and
forwarding the approved electronic message to the intended recipient.
5. The method of claim 4 wherein enabling the electronic message to be
screened further comprises:
25 comparing an electronic address of a sender of the electronic message to at
least one sender list, and
approving or rejecting the electronic message based on a result of the
comparison.

6. The method of claim 5 wherein the at least one sender list includes a list of approved senders such that comparing the electronic address comprises comparing the electronic address of the sender to the list of approved senders.

5 7. The method of claim 5 wherein the at least one sender list includes a list of blocked senders such that comparing the electronic address comprises comparing the electronic address of the sender to the list of blocked senders.

8. The method of claim 1 further comprising establishing the supervisory
10 recipient for the intended recipient.

9. The method of claim 8 wherein the intended recipient is a minor child and the supervisory recipient is a guardian for the minor child such that establishing the supervisory recipient includes establishing the guardian as the supervisory
15 recipient for the minor child.

10. The method of claim 1 wherein the intended recipient and the supervisory recipient have related accounts within an electronic mail service such that routing the electronic message includes routing the electronic message to an account
20 for the supervisory recipient that is related to an account for the intended recipient.

11. The method of claim 10 wherein the intended recipient and the supervisory recipient have unique screen names comprising a single Internet service provider account.

25

12. The method of claim 1 wherein the intended recipient and the supervisory recipient have unrelated accounts such that routing the electronic message includes routing the electronic message to the supervisory recipient account unrelated to the intended recipient account.

13. The method of claim 1 wherein the electronic message comprises an email message such that routing the electronic message includes routing the email message.

5

14. The method of claim 1 wherein the electronic message comprises an instant message such that routing the electronic message includes routing the instant message.

10

15. The method of claim 1, wherein the electronic message comprises a chat room message such that the routing includes routing the chat room message.

16. A system for routing electronic messages, the system comprising:
a routing software module that sends to a supervisory recipient an electronic
15 message that would otherwise be routed to an intended recipient;
a screening software module that allows the electronic message to be screened
by the supervisory recipient and allow the supervisory recipient to approve or reject
the electronic message; and
a forwarding software module that forwards the electronic message to the
20 intended recipient if approved by the supervisory recipient.

17. The system of claim 16 wherein the routing software module notifies the intended recipient that the electronic message has been routed to the supervisory recipient.

25

18. The system of claim 16 wherein the routing software module does not notify the intended recipient that the electronic message has been routed to the supervisory recipient.

19. The system of claim 16, wherein the screening software module comprises:

5 a first software module that compares an electronic address of a sender of the electronic message to at least one sender list, and

a second software module that approves or rejects the electronic message based on a result of the comparison.

20. The system of claim 19 wherein the at least one sender list includes a
10 list of approved senders.

21. The system of claim 19 wherein the at least one sender list includes a list of blocked senders.

15 22. The system of claim 16 further comprising a supervisor establishing software module that establishes the supervisory recipient for the intended recipient.

23. The system of claim 16 further comprising a software module for designating a minor child as the intended recipient and for designating a guardian for
20 the minor child as the supervisory recipient.

24. The system of claim 16 further comprising a software module that relates accounts of the intended recipient and the supervisory recipient within an electronic mail service.

25

25. The system of claim 24 further comprising a software module that enables the intended recipient and the supervisory recipient to have unique screen names comprising a single Internet service provider account.

26. The system of claim 16 wherein the intended recipient and the supervisory recipient have unrelated accounts.

5 27. The system of claim 16 further comprising a software module for receiving an e-mail message as the electronic message.

28. The system of claim 16 further comprising a software module for receiving an instant message as the electronic message.

10

29. The system of claim 16 further comprising a software module for receiving a chat room message as the electronic message.

30. A computer readable medium having embodied thereon a computer
15 program for processing by a computer, the computer program comprising:

a first code segment that causes the computer to route to a supervisory recipient an electronic message that would otherwise be routed to an intended recipient;

20 a second code segment that causes the computer to enable the electronic message to be screened by the supervisory recipient and allows the supervisory recipient to approve or reject the electronic message; and

a third code segment that causes the computer to forward the electronic message to the intended recipient if approved by the supervisory recipient.

25 31. The computer program of claim 30 wherein the first code segment causes the computer to notify the intended recipient that the electronic message has been routed to the supervisory recipient.

32. The computer program of claim 30 wherein the first code segment does not cause the computer to notify the intended recipient that the electronic message has been routed to the supervisory recipient.

5 33. The computer program of claim 30 wherein the second code segment causes the computer to:

compare an electronic address of a sender of the electronic message to at least one sender list, and

approve or reject the electronic message based on a result of the comparison.

10

34. The computer program of claim 33 wherein the at least one sender list includes a list of approved senders.

15 35. The computer program of claim 33 wherein the at least one sender list includes a list of blocked senders.

36. The computer program of claim 30 further comprising a fourth code segment that causes the computer to establish the supervisory recipient for the intended recipient.

20

37. The computer program of claim 36 further comprising a code segment that causes the computer to designate a minor child as the intended recipient a guardian for the minor child as the supervisory recipient.

25 38. The computer program of claim 30 further comprising a code segment that causes the computer to relate accounts of the intended recipient and the supervisory recipient within an electronic mail service.

39. The computer program of claim 38 further comprising a code segment that causes the computer to recognize unique screen names comprising a single Internet service provider account as the intended recipient and the supervisory recipient.

5 40. The computer program of claim 30 wherein the intended recipient and the supervisory recipient have unrelated accounts.

41. The computer program of claim 30 further comprising a code segment for causing the computer to receive an e-mail message as the electronic message.

10

42. The computer program of claim 30 further comprising a code segment for causing the computer to receive an instant message as the electronic message.

15 43. The computer program of claim 30 further comprising a code segment for causing the computer to receive a chat room message as the electronic message.

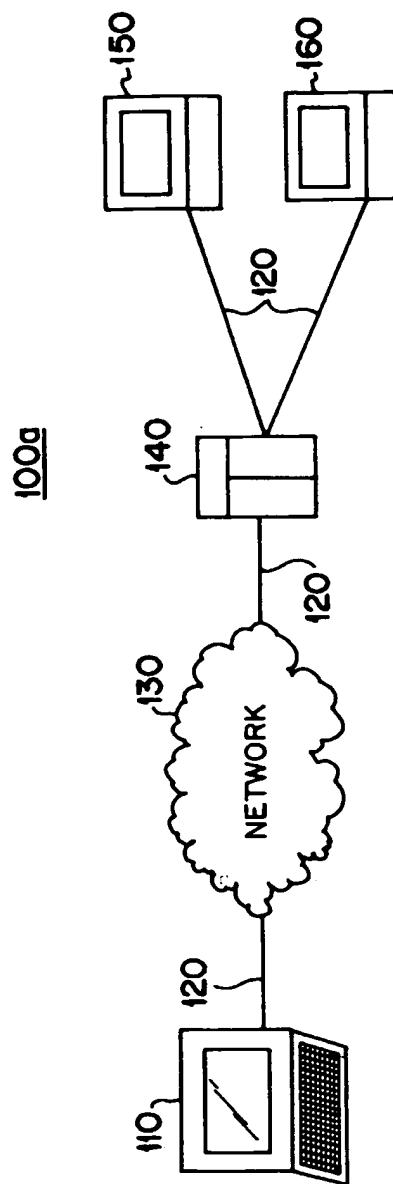
AMENDED CLAIMS

[received by the International Bureau on 11 June 2002 (11.06.02);
original claim 1 amended; remaining claims unchanged (1 page)]

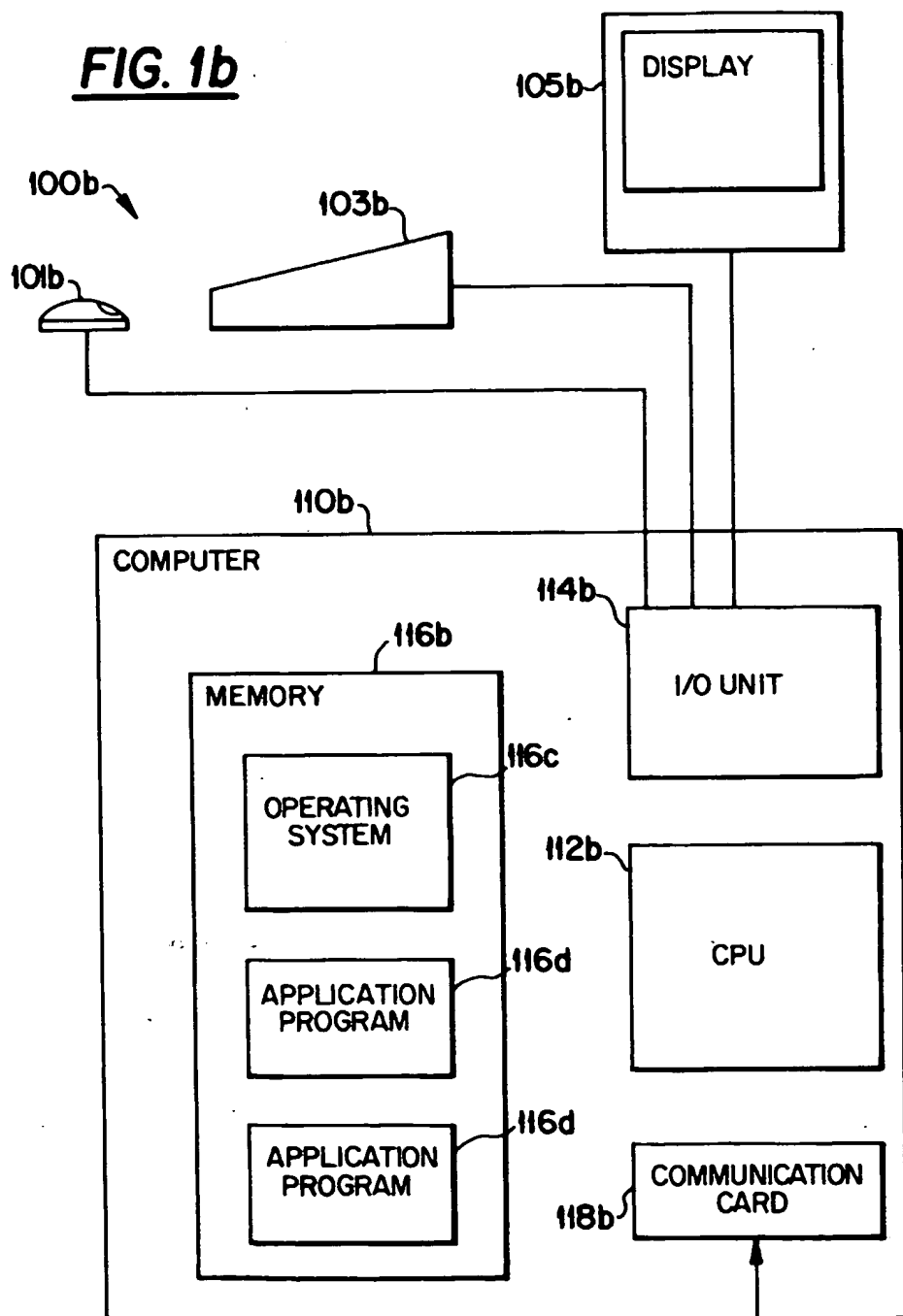
1. A method for monitoring electronic messages that are directed to an intended recipient, the method comprising:
 - routing electronic messages directed to an intended recipient to a
 - 5 supervisory recipient; and
 - enabling electronic messages to be screened by the supervisory recipient.
2. The method of claim 1 wherein routing the electronic message includes
- 10 notifying the intended recipient that the electronic message has been routed to the supervisory recipient.
3. The method of claim 1 wherein routing the electronic message does not include notifying the intended recipient that the electronic message has been
- 15 routed to the supervisory recipient.
4. The method of claim 1 wherein enabling the electronic message to be screened further comprises:
 - allowing the supervisory recipient to approve or reject the electronic message,
 - 20 and
 - forwarding the approved electronic message to the intended recipient.
5. The method of claim 4 wherein enabling the electronic message to be screened further comprises:
 - 25 comparing an electronic address of a sender of the electronic message to at least one sender list, and
 - approving or rejecting the electronic message based on a result of the comparison.

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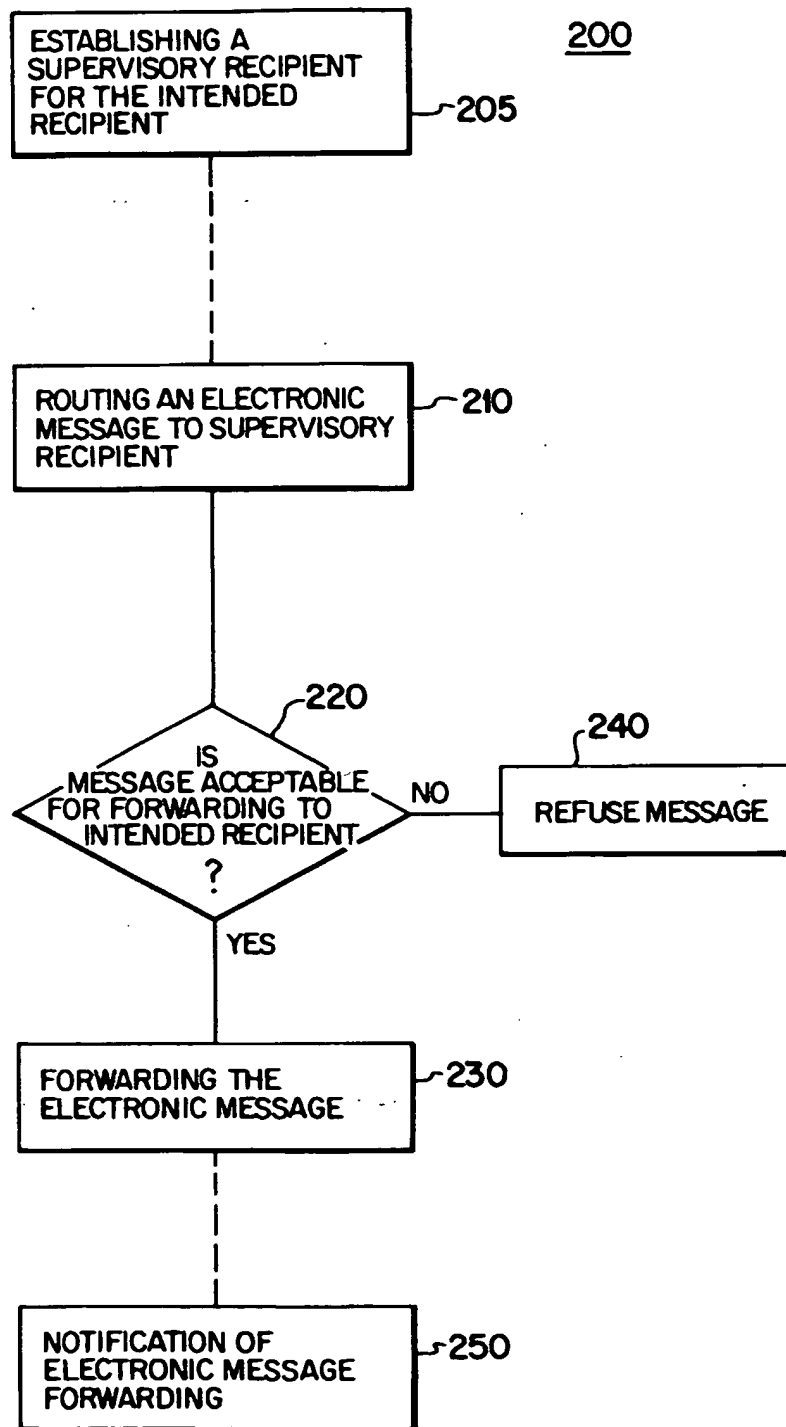
FIG. 1a



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FIG. 1b

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FIG. 2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/48749

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : G06F 1/26 US CL : 713/153 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 713/153, 154, 200 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,128,739 A (Fleming, III) 3 October 2000.(3.10.2000), column 4, lines 38-67	1-4, 11-14,16-20,26-28,30-34,38,40-42
---	hrough column5, lines1-67.	
Y		5-10,15, 21-25, 29, 35-37, 39, 43
Y	WO 0068815 A1 (Unbound communications, Inc.) 16 November 2000(16.11.2000), pg. 9, lines 20-23, pg 11, lines 13-23, pg. 13, lines 10-23.	5-10,15,21-25,29,35-37, 39, 43
Y	US 5,835,722 A (Bradshaw et al) 10 November 1998 (10.11.2000), entire document.	1-43
Y	US 5,796,948 A (Cohen) 18 August 1998(18.08.1998), column 2, lines 1-67, column 5, lines 25-54.	1-43
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:		
-A-	document defining the general state of the art which is not considered to be of particular relevance	-T- later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
-E-	earlier application or patent published on or after the international filing date	-X- document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
-I-	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	-Y- document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
-U-	document referring to an oral disclosure, use, exhibition or other means	-&- document member of the same patent family
-P-	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search 27 February 2002 (27.02.2002)		Date of mailing of the international search report 11 APR 2002
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20531 Facsimile No. (703)305-3230		Authorized officer Gail O Hayes Telephone No. (703) 305-4274

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/48749

Continuation of B. FIELDS SEARCHED Item 3:

WEST, NPL, DIALOG; Search terms: electronic message, email, redirection, routing and forwarding, supervising, parental control, message screening